



FFPE Nucleic Acid Extraction Kits

RNAstorm™ and DNAstorm™ FFPE Extraction Kits

Formalin-fixed tissue samples are a challenge for RNA and DNA extraction, often resulting in low yields and poor performance in subsequent steps. Most existing methods rely on heat to remove crosslinks and adducts, which is only partially effective and leads to additional fragmentation of labile nucleic acids. In contrast, the catalytic CAT5™ technology, built on research initiated at Stanford University (Ref. 1), greatly accelerates the removal of formaldehyde damage and allows recovery of higher quality nucleic acids. This results in higher yields, more intact RNA or DNA, and better results in downstream analysis like PCR, microarray, or next-generation sequencing (NGS).

RNAstorm™ FFPE RNA Extraction Kit

Powered by proprietary CAT5™ technology, the RNAstorm™ FFPE RNA Extraction Kit enhances the removal of formaldehyde-induced damage and purifies RNA with higher yield and quality, better integrity, and greater amplifiability.

The superior quality of RNAstorm-derived RNA has been demonstrated in many ways, including higher RIN score (Fig. 1), higher yield (Fig. 2), higher DV200 (Fig. 3), and improved RNA-seq alignment. According to a tech note from Illumina (Ref. 2), the best predictor of successful performance in Illumina RNA-seq is the DV200 score, which represents the percentage of RNA fragments longer than 200 nucleotides. Whether you are performing RNA-seq, RT-qPCR, microarray, or other gene expression analysis, the RNAstorm™ kit is your best chance for success.

DNAstorm™ FFPE DNA Extraction Kit

Using the same CAT5™ technology as the RNAstorm™ kit, the DNAstorm™ FFPE DNA Extraction Kit enhances the removal of formaldehyde-induced damage and provides DNA with higher yield, quality, and greater amplifiability. The DNAstorm™ kit is the best solution for NGS, qPCR, and other advanced DNA analysis applications.

CAT5™ catalytic technology

- Chemical reversal of formaldehyde crosslinking
- Effective: Higher yields than heat-based methods
- Gentle: Milder conditions and no harsh solvents
- Higher Quality: Yields RNA or DNA with less fragmentation

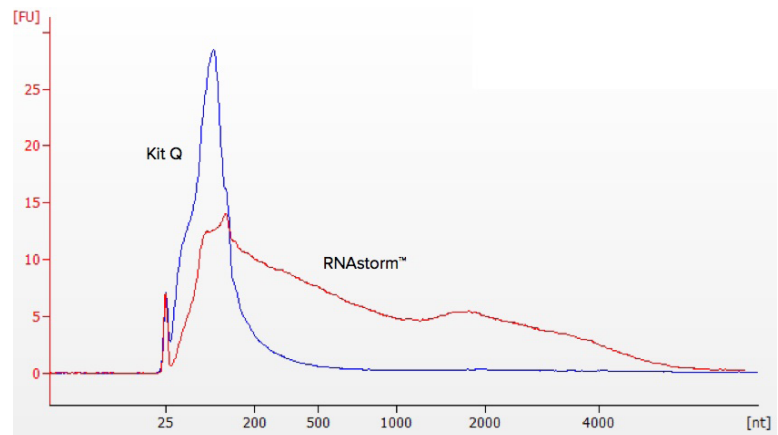


Figure 1. Increased RNA integrity is observed for RNA extracted using the RNAstorm™ kit compared to a popular commercial kit. Extracted RNA was analyzed on an Agilent Bioanalyzer RNA 6000 nano.

RNAstorm™ Advantages

- Reduced RNA damage
- Higher yields of amplifiable RNA
- More intact RNA as measured by:
 - Higher RIN score (RNA integrity)
 - Higher DV200 (% RNA >200nt)

DNAstorm™ Advantages

- Reduced DNA damage
- Higher yields of amplifiable DNA
- Simple workflow

The RNAstorm™ FFPE RNA Extraction Kit offers higher RNA yields than competitor kits

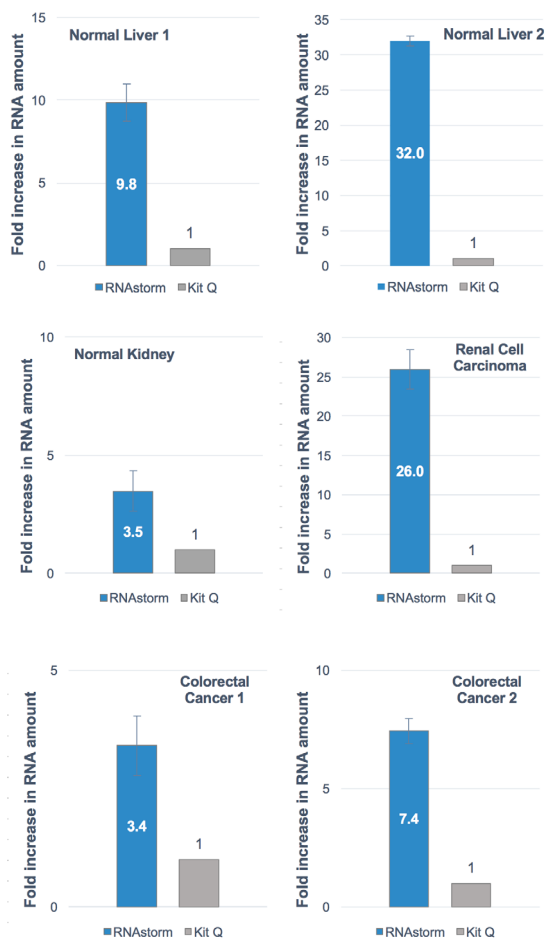


Figure 2. Comparison of RNA recovery by quantitative RT-PCR from six different FFPE tissue samples. "Kit Q" represents a market-leading competitive commercial FFPE extraction kit. Relative amounts of RNA were estimated from the Ct number observed for each sample.

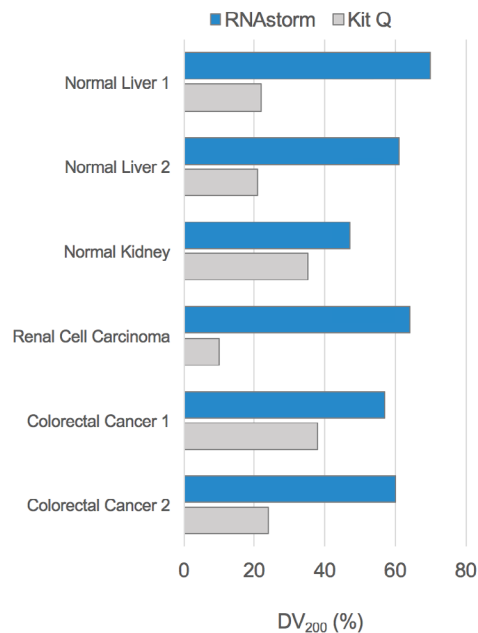


Figure 3. RNA extracted using the RNAstorm™ FFPE RNA Extraction Kit was compared to a popular commercial kit. Increases in DV200 (the percentage of RNA with length > 200 nt) were seen for a variety of tissue samples.



Ordering Information

Kit Name	Cat. #	Size
CELLDATA RNAstorm™ 2.0 FFPE RNA Extraction Kit	CD506	50 preps
CELLDATA DNAsstorm™ 2.0 FFPE DNA Extraction Kit	CD507	50 preps
CELLDATA DNAsstorm™/RNAstorm™ 2.0 Combination Kit	CD508	50 preps
CELLDATA DNAsstorm™ 2.0 MagBead FFPE DNA Extraction Kit	CD509-96	96 preps
CELLDATA RNAstorm™ Fresh Cell and Tissue RNA Isolation Kit	CD504	50 preps
DNA Gel Extraction Kit	31030-50	50 assays
	31030-250	250 assays

References:

- Karmakar et al., Organocatalytic Reversal of Formaldehyde Adducts of RNA and DNA Bases, Nature Chemistry 2015, 7, 752-758; doi:10.1038/nchem.2307
- Evaluating RNA Quality from FFPE Samples: Guidelines for obtaining high-quality RNA sequencing results from degraded RNA with the TruSeq® RNA Access Library Preparation Kit, Illumina Inc., downloaded at <http://www.illumina.com/documents/products/technotes/technote-truseq-ma-access.pdf>